

A1
a threshold value storage unit configured to store a plurality of threshold values according to possible tone values that the input tone data may take, the threshold values including respective threshold values that correspond to P different dots, where P is an integer satisfying $2 \leq P < N$;

a multi-valuing unit configured to determine an on-off state of a dot and which of the N different dots is to be created in each pixel based on density data obtained by an error diffusion distribution of an error, said error representing a difference between a density to be expressed in a processed pixel and a density expressed by a dot actually created in the pixel; and

a dot creation unit configured to drive said head and create the N different dots having different densities per unit area based on results of the determination.

A2
Sub 1
5. (Amended) A printer-system in accordance with claim 1, wherein the threshold value storage unit is configured to determine a difference between corresponding threshold values according to the input tone value, said difference having a plurality of points where a linear differential coefficient of the difference changes from minus to plus or plus to minus.

A3
Sub 1
9. (Amended) A printer-system that creates a plurality of dots and thereby prints an image on a printing medium, said printer-system comprising:

a head configured to produce N different dots having different densities per unit area, where N is an integer of not less than 2;

an input unit configured to input tone data with respect to each of the pixels included in an original image;

a multi-valuing unit configured to determine an on-off state of a dot and which of the N different dots is to be created in each pixel based on density data obtained by an error

diffusion distribution of an error, said error representing a difference between a density to be expressed in a processed pixel and a density expressed by a dot actually created in the pixel;

A3 a dot creation unit configured to drive said head and create the N different dots having different densities per unit area based on results of the determination; and

a noise addition unit that adds preset noise data to either one of the input tone data and at least a part of a plurality of threshold values for tone values of said input tone data, prior to the determination by said multi-valuing unit.

12. (Amended) A4 A method of creating a plurality of dots and printing an image on a printing medium with a head that enables creation of N different dots having different densities per unit area, where N is an integer of not less than 2, said method comprising steps of:

50317 (a) inputting tone data with respect to each of pixels included in an original image;

(b) referring to data that stores a plurality of threshold values according to possible tone values that the input tone data may take and determining the plurality of threshold values corresponding to the input tone data, the plurality of threshold values including corresponding threshold values that correspond to P different dots, where P is an integer satisfying $2 \leq P < N$;

(c) determining an on-off state of a dot and which of the N different dots is to be created in each pixel based on density data obtained by error diffusion distribution of an error, said error representing a difference between a density to be expressed in a processed pixel and a density expressed by a dot actually created in the pixel;

(d) driving said head and creating the N different dots having different densities per unit area based on results of the determination carried out in said step (b); and

(e) driving said head and creating the N different dots having different densities per unit area, based on results of the determination carried out in said step (c).

13. (Amended) A method of creating a plurality of dots and printing an image on a printing medium with a head that enables creation of N different dots having different densities per unit area, where N is an integer of not less than 2, said method comprising the steps of:

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- (a) inputting tone data with respect to each of pixels included in an original image;
 - (b) determining an on-off state of a dot and which of the N different dots is to be created in each pixel based on density data obtained by error diffusion distribution of an error, said error representing a difference between a density to be expressed in a processed pixel and a density expressed by a dot actually created in the pixel;
 - (c) driving said head and creating the N different dots having different densities per unit area based on results of the determination carried out in said step (b); and
 - (d) adding preset noise data to either one of the input tone data and at least a part of a plurality of threshold values for tone values of said input tone data, prior to the determination carried out in said step (b).

14. (Amended) A recording medium in which a program for driving a printer is recorded in a computer readable manner, said printer creating a plurality of dots and thereby printing an image on a printing medium, said program causing a computer to attain the functions of:

referring to data, which stores a plurality of threshold values according to possible tone values that input tone data may take, and determining the plurality of threshold values corresponding to the input tone data, the plurality of threshold values including corresponding threshold values that correspond to at least two different dots having different densities per unit area; and